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KHSR: The Tide Pod "Challenge" – Responding to an Emerging Public Health Issue

Background

Each year, about 30,000 new consumer products are launched. Sometimes after a product launch, unintended uses and consequences can occur. The Tide Pod was designed to create a pre-measured quick, easy, and clean way to dispense laundry detergent into your washing machine. It was wildly popular and led to many other laundry and detergent brands adopting this pod dispensing method.

Product safety messages for household detergents did not change with this new dispensing method – the message was still "keep this potential poison up and out of reach of children." However, children did access these products and the results were even more severe than traditional liquid detergent. Severity was partly due to the concentration of the product with ingestion causing severe vomiting, breathing troubles, burns to the esophagus, and even unconsciousness and death. The liquid in the pods can also cause burns to the eyes and skin.

Like the "cinnamon challenge" and "ghost pepper challenge," two similar challenge fads which involved consuming extreme quantities of spices and extremely hot peppers respectively, the Tide Pod "Challenge" started to grow in popularity. After these "pod" products had already been on the market, we would see teens intentionally misuse this product as part of a social media challenge to garner "likes" and attention. While the greatest public health impact is still on young children gaining access, both unintentional and intentional ingestion needed to be addressed. The question was and is "How do we respond to an emerging public health issue?"

Responding to an emerging public event can be broken it three stages; Awareness and Understanding of the Issue, Planning a Response, and Evaluating Actions.

How Do We Learn About the Issue?

Awareness can be through a combination of ways: Manufacturer receives complaints,

public health professions see it in the field, the Consumer Product Safety Commission issues a safety notice or product recall, media (including social media). Awareness of the Tide Pod consumption issue was

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through social and traditional media sources. This fad was an especially popular subject of traditional news networks.

What Do We Know About the Issue?

Who is being primarily affected? What sources do you need to look at to identify an impact or trend?

There are many data sources available to public health professionals to understand an issue and make informed decisions, including Syndromic Surveillance, Hospital Discharge, Mortality, and Poison Control Center data along with Social and Traditional Media (measurement of media impressions).

Syndromic Surveillance is a rapid source of Emergency Department visits in Kansas with very timely data. The Kansas Syndromic Surveillance Program (KSSP) is an excellent starting point for quick and rapid assessment of emerging health issues. KSSP data functions off free-text queries in the Chief Complaint fields and queries for specific Discharge Diagnosis codes. Both fields were queried in response to anecdotal information regarding detergent exposure. Initial data queries return ingestion cases mixed in with allergic reaction cases, but cases could then be classified as likely or unlikely detergent ingestion. This process was run on KSSP production data from January 1, 2017 to March 15, 2018 and returned 45 potential cases of detergent ingestion. Thirty-seven (82%) of these 45 potential cases were from children under the age of 6. There were no potential cases in the 6-15-year age range, 6 aged 16-25, and the two remaining cases were 50 years or greater.

Another KDHE partner with data highly relevant to this event is the Poison Control Center at the University of Kansas Health System (KS PCC). The KS PCC is one of only 55 poison control centers in the United States and the only one in Kansas. A request was made by Safe

Kids Kansas to the KS PCC for both Laundry Detergent and Laundry Pod Exposures between 10/24/17 - 1/21/18.

For laundry detergent, there were 12 calls to the KS PCC regarding exposure. A majority of these were deemed "Unintentional" and, while concerning, are outside of the intentional ingestion fad. The age ranges of these were also outside of the presumed affected ages for the fad.

For laundry pod exposure, KS PCC reported 25 calls during this period. Once again, a majority of these were deemed "unintentional" and the age distribution was also outside of the intentional ingestion fad.

Planning a Response

Who is the target audience? How should we format messaging? How should messages be delivered? How do we coordinate with partners?

The social media and network news sensation of the "Tide Pod Challenge" showed multiple individuals between the approximate ages of twelve to late twenties ingesting the laundry pods on video. The actual emergency department visits show a different story of mostly very young children in contact with these chemicals.

According to Time Magazine, while teens were making the biggest sensation through social media, "parents and consumer protection groups have for years been concerned that the laundry pods too closely resemble candy or toys and could be accidentally eaten by young children who don't know the difference. (The USCPSC has been warning parents about laundry pods since 2013.) In 2017, about 10,500 of the 12,300 estimated exposures to laundry pods occurred in children younger than five, according to the AAPCC." [1]

A response can include a combination of coordinated messages and actions, such as awareness of the issue, education about what to do, collaboration with public health partners to amplify reach, and working with commercial partners at the source such as manufacturers or retailers.

Example of a manufacturer being a partner in solving the problem:

After becoming aware that children were having severe negative responses to exposure of their product, Tide coated the pods with a bitter taste and changed the packaging to make it harder for small hands to open. Regarding the teen challenge, Proctor and Gamble worked quickly with YouTube to remove the challenge videos, and it has used social media to establish two-way communication with consumers using meme-looking, and attractive posts that they are able to share with the hope that people will spread around. The interesting result? The meme is shifting a bit, especially as it's harder to get attention for eating them.

One important factor in planning a response is to appropriately target your audience. Some questions to ask are; Where do they get information? Who do they trust? From there, it's best to use a combination of tools such as traditional media, social media, and influencers. Sometimes that means finding unusual partners and using humor to get the message across.

With the "Tide Pod Challenge" topic being so popular on social media, Safe Kids Kansas also used social media for messaging. Social media relies on mass sharing between individuals to reach a wide readership.

Whatever the messaging format, it's important to ensure messaging validates concerns, shows action or tells people what you would like them to do, and controls the narrative on the issue.

Can You Measure Change?

What was your baseline? What direction are the numbers going? Based upon response, how will you change your message and strategy moving forward?

At this point in time, the "Tide Pod Challenge" has mostly fallen out of public and media attention. Even though it isn't in the nightly news, there is still a real danger of accidental ingestion by children. The actions taken by Tide to add the bitter taste to the laundry pods and make the packaging harder to open may influence children exposed to the chemicals contained within. The current work provides baseline numbers to measure changes in counts in the future. Tide is not the only laundry detergent pod in the market and is not the only one children are exposed to. Hopefully the other manufacturers follow the example set by Tide to dissuade consumption.

It is important to remind parents and individuals of the dangers of detergent ingestion periodically now that the sensation has died down. Hopefully a side effect of this social media craze has been an increased awareness of the dangers contained in these laundry detergent delivery devices.

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Reference

[1] TIME. Here's How Common the Tide Pod Challenge Really Is [online]. 2017. [cited 2018 May 29]. Available from: http://time.com/5104225/tide-pod-challenge/

KDHE Recognizes Hospitals for Syndromic Surveillance Program

The Kansas Department of Health and Environment recognized two Kansas hospitals for their support of the Kansas Syndromic Surveillance Program (KSSP). Labette Health, a 99-bed hospital in Parsons, and Wesley Medical Center, a 760-bed hospital in Wichita, received the recognitions at the annual meeting of the Kansas Chapter of the Healthcare Information and Management Systems Society in Wichita, May 3-4, 2018.

The two hospitals were recognized for complete and timely reporting of electronic health record (EHR) data to KSSP. As a result, both hospitals have contributed to the protection of the community by maintaining data quality and responding quickly to quality improvement issues.



From left to right: Sally Othmer, Kansas Hospital Association; Michelle McGuire, KS Chapter of Healthcare Information and Management Systems Society; Paula Conner, Labette Health, Greg Crawford, KDHE, and Diane Journot, Labette Health.

"By participating in the Syndromic Surveillance Program, these hospitals help make a difference for public health in Kansas," said KDHE Secretary Jeff Andersen. "Labette Health and Wesley Medical Center deserve this recognition for their hard work and diligence in this important area."

In Kansas, 79 hospitals submit data to KSSP via their EHR system. Deidentified data from participating hospitals containing the patient's chief complaint information arrives within

hours of the patient's arrival to an emergency department. From that information, KDHE's Bureau of Epidemiology and Public Health Informatics successfully tracked influenza and pneumonia activity over the flu season and has worked to ensure all measles cases have been identified in the current Eastern Kansas measles outbreak.

The receipt of EHR information from hospitals participating in Syndromic Surveillance and other public health registries, reportable diseases, cancer registry, and immunization registry, has assisted the agency's efforts to protect public health.

Bureau of Epidemiology and Public Health Informatics

Preliminary 2017 Abortion Report Issued

There were 6,782 abortions reported in Kansas during 2017, a decrease of 0.4 percent from the final 2016 report (28 fewer). The preliminary total represents a 37.4 percent decrease in abortions reported in Kansas since 2007 (Figure 1).

Of the abortions reported in Kansas during 2017, a total of 3,405 (50.2%) occurred to Kansas residents. The number of Kansas residents obtaining abortions decreased by 0.7 percent compared to 2016. Of the 3,377 out-of-state residents who obtained abortions in Kansas, 3,170 (93.9%) were Missouri residents.

Women 20-24 years of age comprised the largest age-group seeking abortions (30.5%) followed by those aged 25-29 years (27.6%). There were 19 abortions to women under age 15 reported in 2017, 35.7 percent more than in 2016.

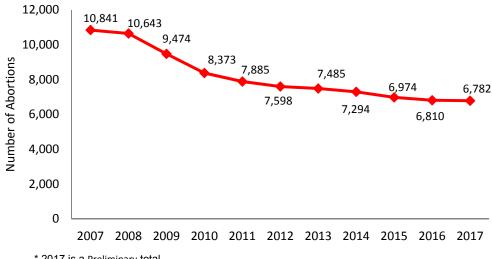


Figure 1. Number of Abortions by Year, Kansas, 2007-2017

* 2017 is a Preliminary total

In 2017, White non-Hispanic women accounted for over half (56.5%) of reported abortions. Black non-Hispanic women accounted for about one out of five (22.9%) reported abortions and Hispanic women of any race accounted for about one out of 10 (13.1%) reported abortions. The percentage of abortions reported among Black non-Hispanic women was slightly higher in 2017 (22.9%) compared to the percentage in 2016 (21.3%).

Other findings from the 2017 preliminary report:

- Over four out of five Kansas-reported abortions occurred to unmarried women (83.8%), about the same percentage found in 2016 (83.7%).
- In 2017, about three out of five (4,578 or 67.5%) women reported never having a previous abortion increasing slightly from 2016 (65.8%).
- About one in four women reported having one previous abortion (1,449 or 21.4%). A total of 99 women (1.5%) indicated they had previously had four or more abortions.
- More than three out of five (68.0%) of all reported abortions occurred prior to nine completed weeks of gestation. The change was an increase from 2016 (64.3%).

The 2017 Preliminary abortion Report is available at http://www.kdheks.gov/data reports_stats.htm.

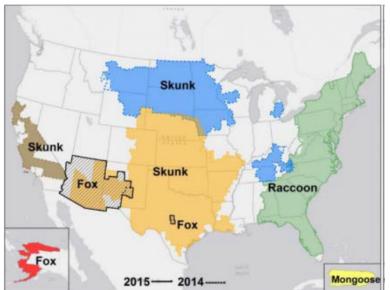
The final tally of Kansas abortions will be available in the 2017 Annual Summary of Vital Statistics.

Bureau of Epidemiology and Public Health Informatics

Kansas Local Health Department Uses Syndromic Surveillance Data to Direct Public Education on Rabies

(Editors note: This article appeared in the May 2018 issue of CDC's NSSP update.)

Figure 1. Wildlife Reservoirs: Rabies



The rabies virus infects the central nervous system, ultimately causing disease in the brain and then, later, death[1]. This fatal, viral zoonotic disease is found in the saliva of a rabid animal and usually spread through a bite, although it also can be spread when infected saliva comes in direct contact with open wounds or mucous membranes. The incubation period in humans may last for weeks to months. However, rabies in people can be prevented with timely and appropriate administration of rabies

postexposure prophylaxis (RPEP) before onset of clinical illness. People who have never been vaccinated will require human rabies immune globulin (HRIG) and four or five doses of rabies vacine.

In Kansas, skunks are the primary reservoir for terrestrial rabies (Figure 1), with spillover into other wildlife and domestic animals. Separate rabies virus variants also are found in bats in Kansas. In the United States, bat-related rabies is the most common virus variant responsible for human cases of rabies[2]. Evaluating potential exposure to bats and the need for RPEP can be complicated. The Advisory Committee on Immunizations Practices on Human Rabies Prevention states that "consultation with state and local health departments should always be sought" by healthcare providers when evaluating the need for RPEP[3].

In Kansas, all suspected or confirmed rabies cases in humans or animals are required to be reported to the Kansas Department of Health and Environment. Cases are then assigned to the local health department in the county in which the human or animal resides. In Kansas, neither animal bites nor administration of RPEP is reportable. Often, RPEP is available only at the hospital emergency department (ED). Because RPEP administration is not a reportable condition, the Lawrence-Douglas County Health Department (LDCHD) had difficulty tracking the use of RPEP, which can be an indicator of public concern.

ESSENCE obtains near real-time ED data, which changed this scenario. Syndromic data are ideal for tracking RPEP that has been dispensed. In August 2017, the LDCHD communicable disease staff noticed an increase in calls and emails to the LDCHD about rabies and exposure to bats. In response, the Kansas Syndromic Surveillance Program developed

ESSENCE rabies queries. Evaluation of the chief complaint provided supporting data to show more cases of RPEP were dispensed than anticipated—and most complaints involved bat exposure.

LDCHD used these and other data to develop an education campaign comprised of radio and social media outreach to the public and outreach to healthcare providers. The LDCHD wanted the public to know that although rabies treatment is available, it might not always be necessary. The LDCHD subject matter experts can assist healthcare providers in the decision to treat their patients.

For more information, please email KDHE.Syndromic@ks.gov. To see the rabies query used, visit the NSSP Community of Practice Knowledge Repository.

Lawrence Douglas County Health Department

Reference

- [1] Centers for Disease Control and Prevention (CDC). Rabies [online]. 2017. [cited 2018 Apr 4]. Available from: https://www.cdc.gov/rabies/
- [2] CDC. Notes from the Field: Assessing Rabies Risk After a Mass Bat Exposure at a Research Facility in a National Park—Wyoming, 2017. MMWR 2018;67(10);313–14. Available from: https://www.cdc.gov/mmwr/vol-umes/67/wr/mm6710a7.htm
- [3] CDC. Human Rabies Prevention—United States, 2008. Recommendations of the Advisory Committee on Immunization Practices. MMWR 2008;57(RR03);1–26, 28. Available from: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm
- * Electronic Surveillance System for the Early Notification of Community-based Epidemics
- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Announcements

Preliminary Birth Report Issued

The Bureau of Epidemiology and Public Health Informatics has released *Preliminary Birth Report, Kansas, 2017*. As of April 2, 2018, KDHE's Office of Vital Statistics had recorded 36,483 births to Kansas resident mothers in 2017, a decrease of 4.1 percent from 38,048 births in 2016. The birth rate declined from 13.1 per 1,000 population in 2016 to 12.5 in 2017. This is the lowest birth rate for Kansas residents since the state created a centralized Vital Records system in 1911. Births to teen mothers remained steady at 5.6 percent of live births, though the count decreased slightly from 2,126 in 2016 to 2,054 in 2017. Counts and rates presented in the Kansas Annual Summary of Vital Statistics, 2017 may be slightly higher, due to births that may be reported for Kansas residents who gave birth in other states. The full report is available at www.kdheks.gov/phi/download/Preliminary_Birth_Report_2017.pdf. For further inquiry about additional data needs, call (785) 296-8627. See Preliminary Live Births and Rates chart on page 10.

Bureau of Epidemiology and Public Health Informatics

Kansas Population Figures Released

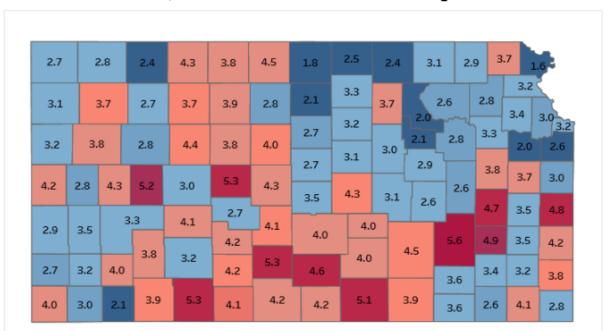
The estimated population of Kansas increased just 0.2 percent from 2016 to 2017. Census Bureau estimates show the state's population climbed just 5,834 residents, from 2,907,289 in 2016 to 2,913,123 in 23017. The county with largest percentage increase was Hamilton, increasing by 4.1 percent to 2,634 residents in 2017. Lane County with 1,559 residents had the largest percentage decrease from 2016 tom 2017 of 4.7 percent. See the full table of information on page 11.

Bureau of Epidemiology and Public Health Informatics

Dashboard on Drug Use Online

The Kansas Epidemiological Data Dashboard on drug use in the state has gone online. The site available at http://www.preventoverdoseks.org/kpdo_data.htm provides KTRACS Prescription and Patient Metrics, Kansas residents 12+ Years of Age. KTRACS is the state's prescription tracking system. The dashboard has data for 2016 and 2017. Information includes prescription metrics by drug class, age group, and by county of residence, and patient metrics by drug class, age-groups, and patient county of residence. Information on high risk patients is also available. The site is maintained by the KDHE Bureau of Health Promotion as part of the state's response to the national opioid epidemic.

High Risk Patient Indicator Maps by Patient County of Residence, KTRACS 2016 - 2017, Kansas residents 12+ Years of Age



Number of 90+ Daily Milligram Morphine Equivalent Patients Per 100 Residents by County

KDHE Bureau of Health Promotion

	Preli	minary	Live Births and	Rates by	County	of Residence, Kansas	2017	
County	Total	Rate [†]	County	Total	Rate [†]	County	Total	Rate [†]
Kansas	36,483	12.5	Hamilton	31	11.7	Pratt	104	13.1
Allen	140	11.2	Harper	64	11.4	Rawlins	33	13.3
Anderson	104	13.3	Harvey	379	11.0	Reno	694	10.8
Atchison	173	10.6	Haskell	46	11.3	Republic	60	9.2
Barber	55	12.0	Hodgeman	17	9.2	Rice	103	11.2
Barton	284	10.7	Jackson	181	13.6	Riley	881	13.3
Bourbon	179	12.1	Jefferson	176	9.3	Rooks	52	13.4
Brown	130	13.5	Jewell	31	10.9	Rush	31	13.1
Butler	765	11.4	Johnson	7,216	12.2	Russell	73	11.6
Chase	19	7.1	Kearny	65	16.4	Saline	703	12.0
Chautauqua	30	8.9	Kingman	72	9.8	Scott	57	12.5
Cherokee	212	10.5	Kiowa	32	12.9	Sedgwick	6,910	14.3
Cheyenne	30	11.2	Labette	262	13.0	Seward	418	18.9
Clark	22	11.0	Lane	15	9.6	Shawnee	2,067	12.3
Clay	91	11.4	Leavenworth	953	11.8	Sheridan	29	13.2
Cloud	109	12.1	Lincoln	22	7.2	Sherman	73	12.2
Coffey	94	11.4	Linn	99	10.2	Smith	43	11.0
Comanche	18	10.1	Logan	39	13.8	Stafford	54	12.6
Cowley	415	11.7	Lyon	394	11.8	Stanton	28	12.1
Crawford.	461	11.8	McPherson 322		11.2	Stevens	69	13.3
Decatur	33	11.4	Marion 113		9.4	Sumner	262	11.0
Dickinson	208	11.0	Marshall	120	12.3	Thomas	120	15.1
Doniphan	70	9.1	Meade	44	10.2	Trego	27	9.7
Douglas	1,133	9.4	Miami	387	11.6	Wabaunsee	77	9.7
Edwards	24	8.3	Mitchell	73	11.9	Wallace	18	15.4
Elk	24	9.6	Montgomery	346	10.6	Washington	77	11.9
Ellis	300	10.5	Morris	72	11.3	Wichita	30	9.9
Ellsworth	58	9.2	Morton	45	8.8	Wilson.	113	13.1
Finney	626	16.9	Nemaha	151	13.7	Woodson	35	12.0
Ford	589	17.1	Neosho	195	13.4	Wyandotte	2,535	16.4
Franklin	305	11.9	Ness	15	12.5	n.s. [‡]	12	n/a
Geary	888	26.2	Norton	50	12.0	Peer Group		
Gove	31	11.8	Osage	170	11.6	Frontier	1,208	11.2
Graham	21	8.4	Osborne	45	11.0	Rural	2,709	11.8
Grant	113	15.0	Ottawa	44	10.3	Densely Settled Rural	5,931	12.7
Gray	88	14.8	Pawnee	81	9.5	Semi-Urban	5,809	12.7
Greeley	25	20.0	Phillips	49	12.5	Urban	20,814	12.6
Greenwood	57	9.3	Pottawatomie	355	16.7			

^{*} Based on 2017 births registered by April 2, 2018

[†] Rates are per 1,000 population.

[‡] Some records without valid county data may be deleted from the final history file or may be assigned to a Kansas county based on other address information in the record.

Kansas Health Statistics Report

Population Est	imates and	Change by C	County, K	ansas 201	6 and 2017				
Geography	Populatio	on Estimate	Change		Geography	Population Estimate		Change	
	(as of July 1)		2016 to 2017			(as of July 1)		2016 to 2017	
	2016	2017	N	% [1]		2016	2017	N	% [1]
Kansas	2,907,289	2,913,123	5,834	0.2	Lincoln	3,073	3,043	-30	-1.0
Allen	12,714	12,519	-195	-1.5	Linn	9,558		168	1.8
Anderson	7,827	7,833	6	0.1	Logan	2,831		-10	-0.4
Atchison	16,380	16,332	-48	-0.3	Lyon	33,510		-118	-0.4
Barber	4,688	4,586	-102	-2.2	McPherson	28,804		-96	-0.3
Barton	26,775	26,476	-299	-1.1	Marion	12,112		-126	-1.0
Bourbon	14,617	14,754	137	0.9	Marshall	9,836		-91	-0.9
Brown	9,684	9,641	-43	-0.4	Meade	4,216		87	2.1
Butler	67,025	66,878	-147	-0.2	Miami	32,964		497	1.5
Chase	2,669	2,683	14	0.5	Mitchell	6,243		-115	-1.8
Chautaugua	3,374	3,363	-11	-0.3	Montgomery	32,746		-190	-0.6
Cherokee	20,246	20,115	-131	-0.6	Morris	5,573		-118	-2.1
Cheyenne	2,661	2,683	22	0.8		2,848		-108	-3.8
Clark	2,072	2,004	-68	-3.3	Nemaha	10,241	10,118	-123	-1.2
Clay	8,143	7,958	-185	-2.3	Neosho	16,146		-131	-0.8
Cloud	9,150	8,991	-159	-1.7	Ness	2,962		-93	-3.1
Coffey	8,433	8,224	-209	-2.5	Norton	5,493		-52	-0.9
Comanche	1,862	1,790	-72	-3.9	Osage	15,843		-71	-0.4
Cowley	35,753	35,361	-392	-1.1	Osborne	3,642		-32	-0.9
Crawford	39,164	39,034	-130	-0.3	Ottawa	5,920		-57	-1.0
Decatur	2,832	2,885	53	1.9	Pawnee	6,743		-63	-0.9
Dickinson	19,064	18,902	-162	-0.8	Phillips	5,428		-58	-1.1
Doniphan	7,664	7,727	63	0.8	Pottawatomie	23,661	23,908	247	1.0
Douglas	119,440	120,793	1,353	1.1	Pratt	9,584		-37	-0.4
Edwards	2,938	2,893	-45	-1.5	Rawlins	2,549		-52	-2.0
Elk	2,547	2,498	-49	-1.9	Reno	63,220		-710	-1.1
Ellis	28,893	28,689	-204	-0.7	Republic	4,699		-8	-0.2
Ellsworth	6,328	6,330	2	0.0	Rice	9,831	9,660	-171	-1.7
Finney	36,722	37,084	362	1.0	Riley	73,343		829	1.1
Ford	33,971	34,381	410	1.2	Rooks	5,076		-33	-0.7
Franklin	25,560	25,733	173	0.7	Rush	3,058		45	1.5
Geary	35,586	33,855	-1,731	-4.9	Russell	6,988		-73	-1.0
Gove	2,589	2,631	42	1.6	Saline	55,142		-408	-0.7
Graham	2,564	2,495	-69	-2.7	Scott	5,032		-71	-1.4
Grant	7,646	7,526	-120	-1.6		511,995		1,692	0.3
Gray	6,034	5,958	-76	-1.3	Seward	22,709		-550	-2.4
Greeley	1,296	1,249	-47	-3.6		178,146		41	0.0
Greenwood	6,151	6,123	-28	-0.5		2,509		18	0.7
Hamilton	2,536	2,640	104		Sherman	5,965			-0.6
Harper	5,685	5,590	-95		Smith	3,632	-	36	1.0
Harvey	34,913	34,544	-369	-1.1		4,208		-1	0.0
Haskell	4,006	4,053	47	1.2		2,062			-0.1
Hodgeman	1,870	1,842	-28		Stevens	5,584		28	0.5
Jackson	13,291	13,318	27		Sumner	23,272		-113	-0.5
Jefferson	18,897	18,998	101	0.5		7,892		-104	-1.3
Jewell	2,901	2,850	-51	-1.8		2,872		12	0.4
Johnson	584,451	591,178	6,727	1.2	Wabaunsee	6,891		-17	-0.2
Kearny	3,917	3,960	43	1.1	Wallace	1,497		27	1.8
Kingman	7,467	7,360	-107	-1.4		5,546			-1.1
Kiowa	2,483	2,485	2.0	0.1	Wichita	2,112		13	0.6
Labette	20,444	20,145	-299	-1.5		8,723			-0.6
Lane	1,636	1,559	-299	-1.3	Woodson	3,165		-18	-0.6
Leavenworth	80,204	81,095	891		Wyandotte	163,831			0.9
1] Some values are			071	1.1	vvyanuotte	103,031	103,488	1,45/	0.9

^{1]} Some values are zero due to rounding.

Note: The estimates are based on the 2010 Census and reflect changes to the April 1, 2010 population due to the Count Question Resolution program and geographic program revisions. All geographic boundaries for the 2017 population estimates series delineations are as of January 1, 2017.

Source: U.S. Census Bureau, American Factfinder, accessed from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, on March 23, 2018
Estimates for 2016 are as originally released, ignoring later revisions.

Kansas Health Statistics Report

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